

REMARKS

Claims 1-6 remain in the application. Claims 1-3 were rejected under 35 U.S.C. § 103(a) for obviousness over the Hicke et al. article in view of U.S. Patent No. 4,163,714 to Gregor and claims 4-6 were rejected under 35 U.S.C. § 103(a) for obviousness over the Hicke article and Gregor patent in view of U.S. Patent No. 6,017,742 to Takenishi et al.

In the Response submitted January 7, 2010, Applicants pointed out that the Hicke process cannot be considered to use endogenous carboxyl groups and only describes a two-step process for altering the properties of a capillary-pore membrane. The Gregor patent discloses modifying polymeric filters to include complexing ligands. Those ligands may be provided in the filter polymer as part of the original polymer matrix used in making the membrane. Upon completion of the membrane, the complexing ligands are present on all surfaces of the membrane. In other words, the ligands bound to the polymeric material of the filter of Gregor are not in any way restricted to or focused within the pores of the membrane. The multi-step process of attaching functional groups and immobilizing a species thereon disclosed by Hicke and the teachings of Gregor to have ligands incorporated in all of the material used to form polymeric membranes are not combinable since Hicke clearly requires a functionalizing step to create an attachment location within membrane pores. It would be directly counter to the teachings of Hicke to incorporate a binding species throughout the membrane material as opposed to within the pores alone.

The porous membrane includes binding sites indiscriminately across all of the membrane surfaces as well as within the pores since the binding ligands were part of the original matrix polymer. In contrast, the faces of a membrane produced according to the present invention do not include carboxyl groups (binding sites) to any substantive level. Claim 1 has been amended to indicate that the endogenous carboxyl groups are inherent “generally only” within the membrane passageways as described in paragraph [0037] of the present application. As disclosed in the present application, the endogenous carboxyl groups of the present invention are generally located within the transmembrane passageways of the membrane. To the extent

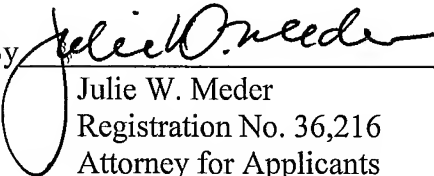
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that there may be a carboxyl group extending out from one or more of the major surfaces of the membrane, this does not detract from the feature of the present invention that the membrane pores are uniquely enriched with endogenous carboxyl groups.

In view of the amendment to claim 1, Gregor's teachings of a membrane having binding sites over the entire membrane and not only generally within the pores thereof, even if combined with Hicke could not result in the present invention. The teachings of the Takenishi patent relating to the reaction of carboxyl groups do not account for the failure of the Hicke article taken with the Gregor patent to provide any rationale, much less ability, to modify their teachings to practice the present invention as defined in claims 1-6.

Allowance of claims 1-6 is respectfully requested.

Respectfully submitted,
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